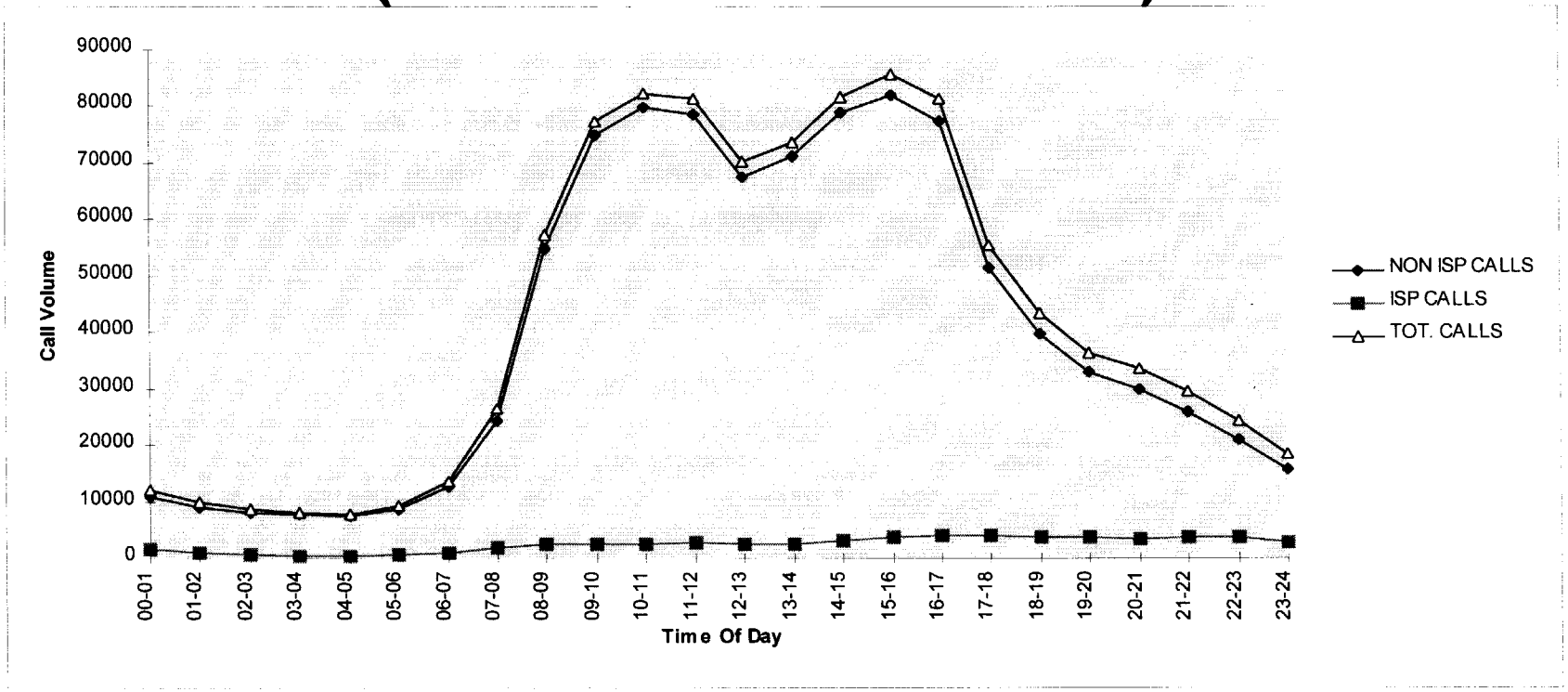
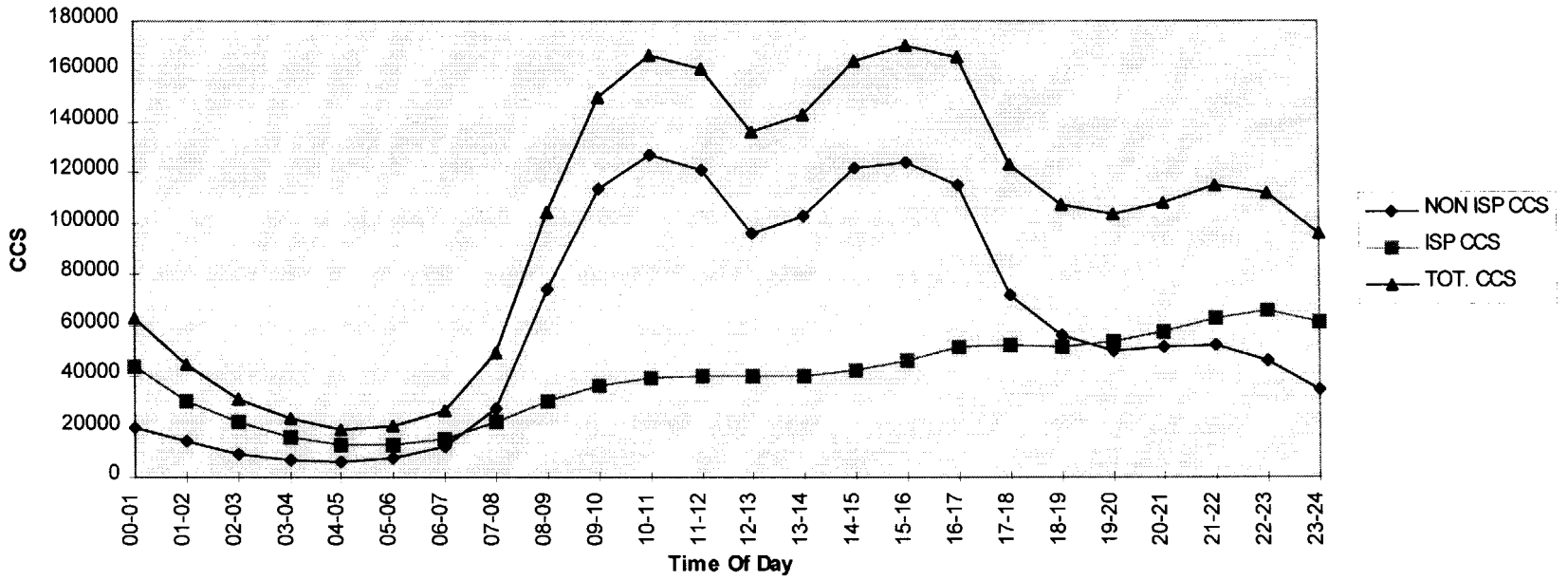
COMPLETED CALLS (5 DAY AVERAGE)



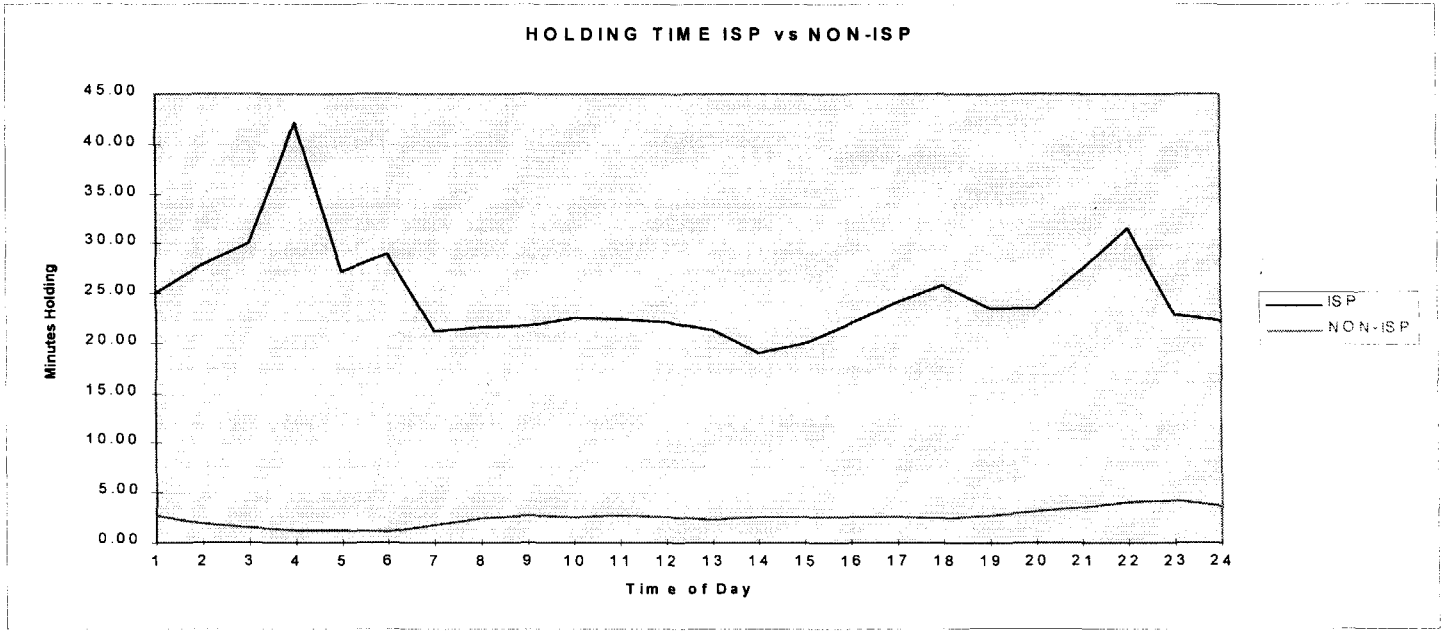
Calls To ISPs Is 6.5% Of The Total Completed Calls And 4.2% Of The Office Busy Hour: But...

UTILIZATION
(5 DAY AVERAGE)



ISP Traffic Is 27% Of The Office Busy Hour Traffic and 38% Of The Total Daily Traffic

HOLDING TIMES
NON-ISP Vs ISP



Average Holding Time Of ISP Call Is 10 Times Longer Than Non-ISP Calls

STUDY CONCLUSIONS

- **Traffic to ISPs Is Present In The Network All The Time (Peak And Off Peak)**
- **Traffic To ISPs Constitutes Nearly 28% Of the Total Busy Hour Load**
- **Holding Time Of Calls To ISPs Is 10 Times Longer Than Non-ISP Calls On Average**

Network Is Sized Based On Busy Hour Requirements.
Study Is Validated By A Large ISP's Data.

ACTIONS TAKEN TO AVOID QUALITY OF SERVICE PROBLEMS

- **Originating And Terminating Line Frame Congestion**
  - Have Balanced High Usage End Users Over Multiple Frames
  - Have Balanced ISP Lines Over Multiple Line Frames
  - Have Migrated ISPs To Trunk Side Connections
  - Have Added Additional Line Frames to De-Load Existing Frames
- **Interoffice Trunking**
  - Have Added trunks throughout network to maintain quality service

All Of The Above Have Been Done With A Cost Of $195M Thru 1997. Continued Action For 1998 Required Estimated To Be $181.3M

FCC ACTIONS REQUIRED

- **FCC Must Take Jurisdictional Responsibility And Quickly Initiate Formal Rulemaking To Address:**
  - **Traffic To ISPs Is Presumptively Interstate In Nature**
  - **ISPs Being Subsidized By Other Users Of The Network**
  - **LECs Must Be Allowed To Recover Costs From The Cost Causers**
- **Expedite Docket Schedule**
  - **Internet Demand On The PSTNContinues To Grow Steeply With No Cost Recovery**
- **Provide Efficient Pricing Mechanisims To Maximize Efficient Network Utilization Not Incented Under Current Rules**
- **Provide Interim Cost Recovery Until Resolution Of Final Rules**

NETWORK ENGINEERING CRITERIA

- PSTN Engineered To P.01 Probability Of Blocking(1 Call Blocked Per 100 Attempts)
- Traffic Load Measured In Centum Call Seconds(CCS)
- Network Sized Based On CCS During The Business Day Busy Hour
- One Circuit Can Carry 36CCS Per Hour Maximum
- Network Sized Based On 28-30CCS Per Trunk During Busy Hour

Network Is Designed For Voice Not Data Traffic

BUSY HOUR TRAFFIC COMPARISONS

- **Office Busy Hour**
  - Non-ISP Traffic
    - 87,688 Calls
    - 141,546 CCS
  - ISP Traffic
    - 4,331 Calls
    - 54,083 CCS
- **ISP Busy Hour**
  - Non-ISP Traffic
    - 25,381 Calls
    - 69,335 CCS
  - ISP Traffic
    - 6,334 Calls
    - 73,001 CCS

ISP Traffic Load During The Study Busy Day Busy Hour Is 27.6% Of The Total Busy Hour Traffic And Is Equal To 74% Of The ISP Busy Hour

BUSY HOUR TRUNK REQUIREMENTS

- **Trunk Requirements Based On 28 CCS/Trunk**

Traffic Type	CCS	Trunks
– Non-ISP	141,546	5,056
– ISP	54,083	1,931
– Total	195,629	6,987

Estimated Cost Of Trunks To Handle ISP Traffic In The Study Area Is $1.134M

ALTERNATIVE TECHNOLOGIES

- **ISDN**
  - Relieves Line Frame Congestion
  - Interoffice Trunking Still Required
- **Front End Network Devices**
  - ISP Must Connect To Platform
  - High Usage End Users Must Be Identified and Rearranged
  - Duplicates Central Office Switch functionality
- **Data Networks**
  - Limited Market
  - ISP Must Connect To Platform
  - Dedicated Line To End User

ALTERNATIVE TECHNOLOGIES

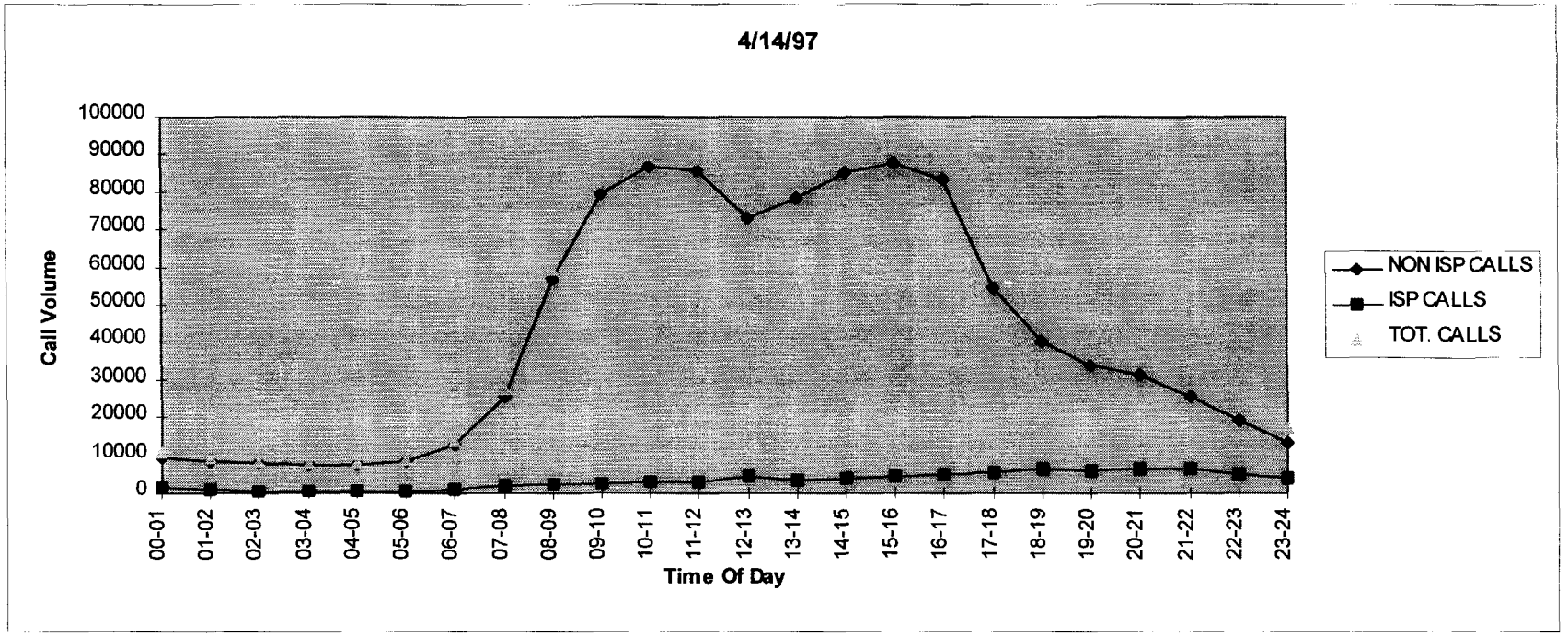
- **xDSL**
  - **Limited Market**
  - **End Users Must Purchase New CPE**
  - **ISPs Must Connect To Platform**
  - **Network Deployment Expensive**
- **Demand For Dial-Up Access Is Expected To Continue To Grow And Will Continue To Pressure The PSTN**

ISPs Chose To Use The PSTN Rather Than Available Packet Data Networks
xDSL Technologies Too Late

TRAFFIC TO INTERNET SERVICE PROVIDERS

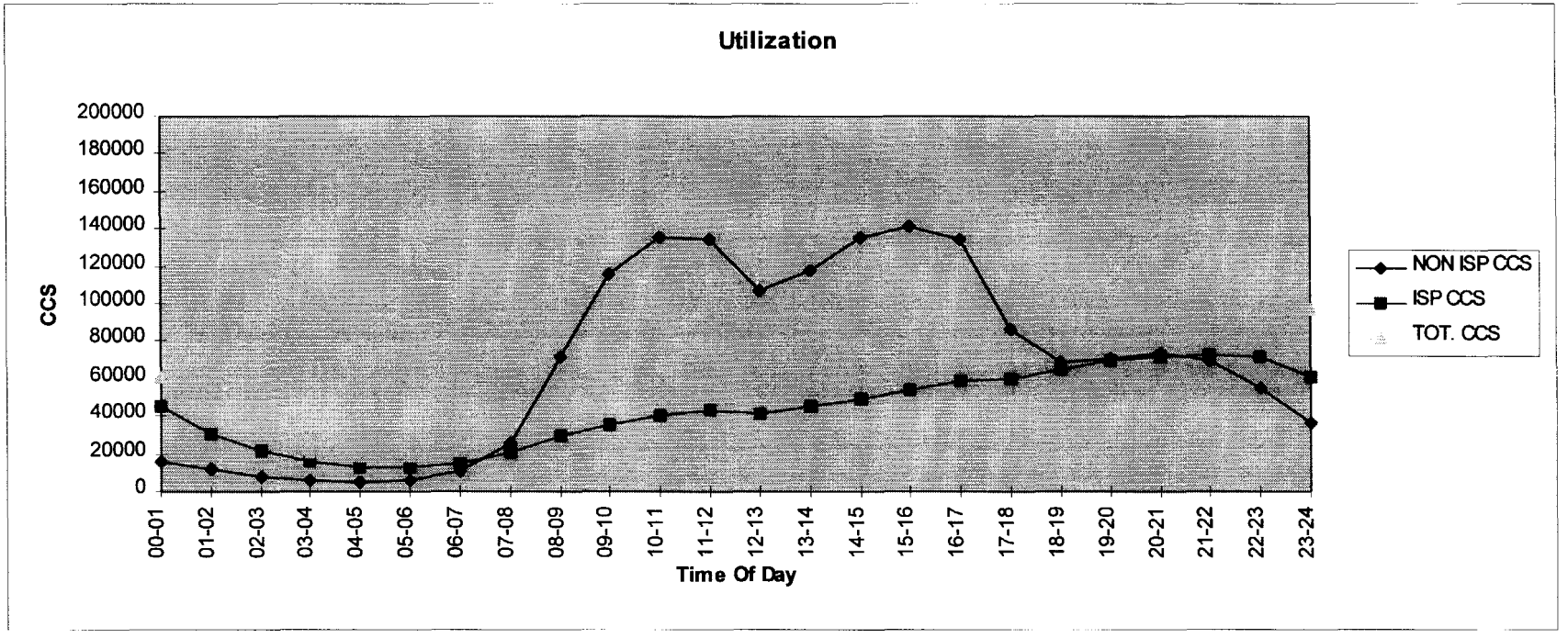
- **Ultimate Destination Of Call Unknown**
  - **Interstate**
  - **Intrastate**
  - **International**
- **Similar To Feature Group "A" Traffic**
  - **First Leg Is Local Call**
  - **Additional Transactions Unknown**

COMPLETED CALLS
4/14/97

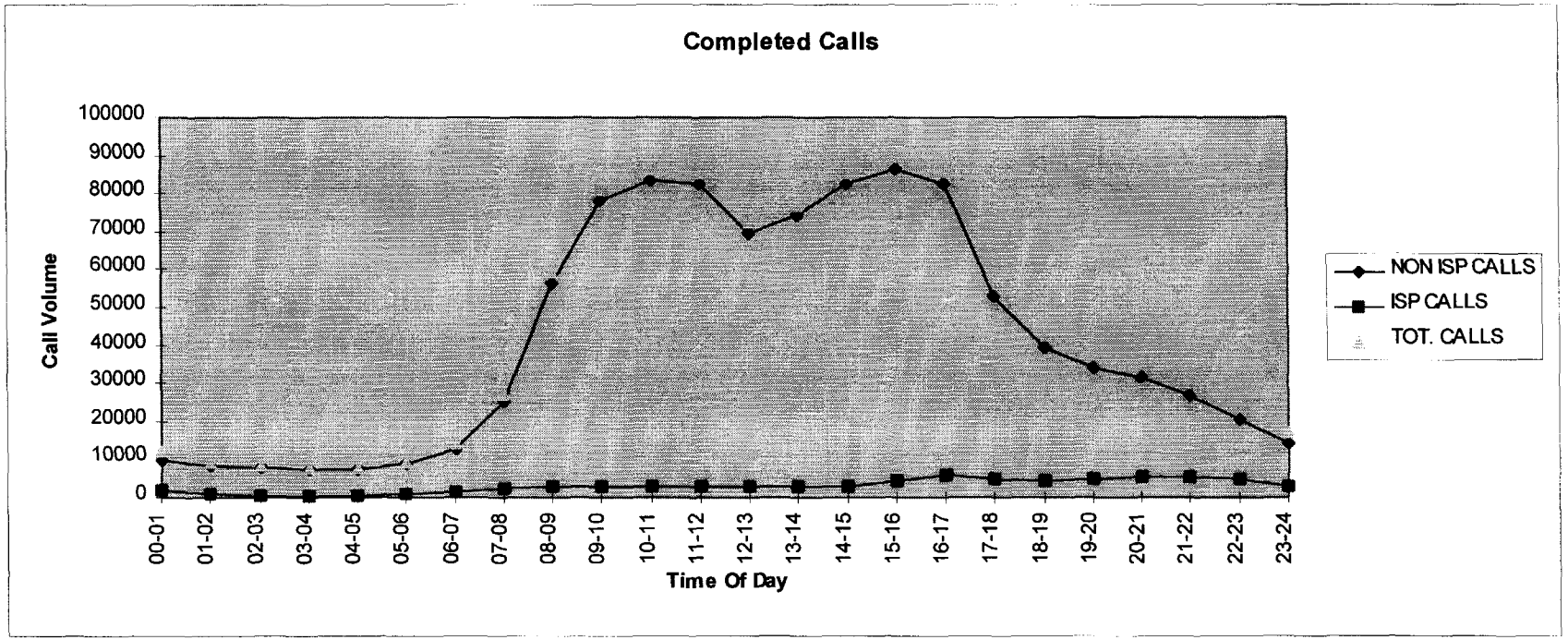


GTE

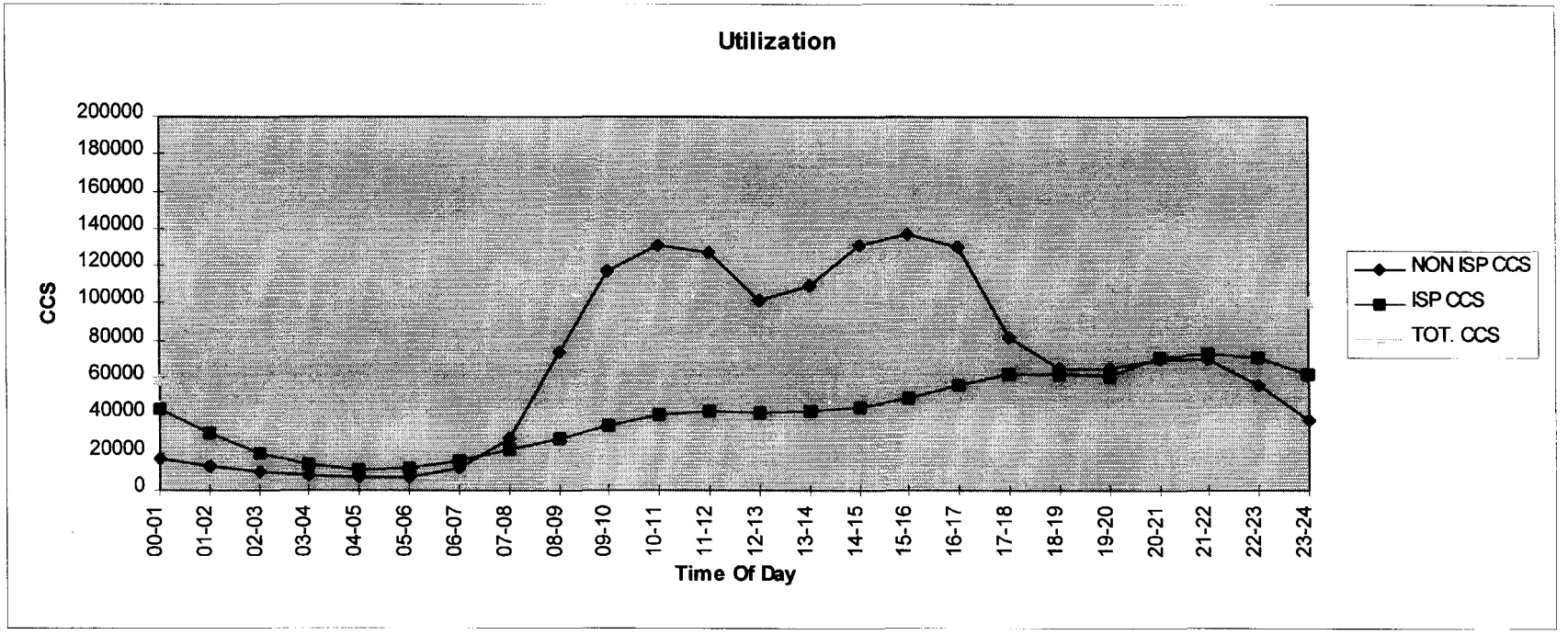
UTILIZATION
4/14/97



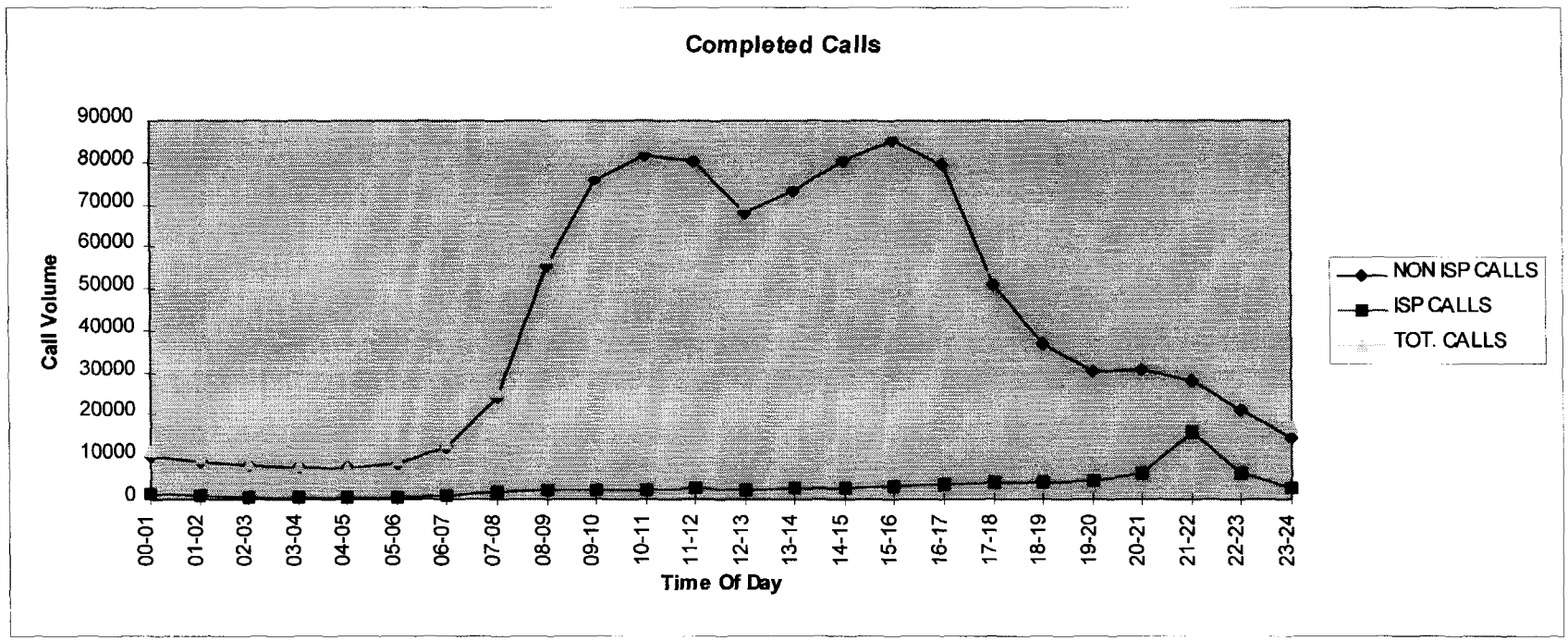
COMPLETED CALLS
4/15/97



UTILIZATION
4/15/97



COMPLETED CALLS
4/16/97



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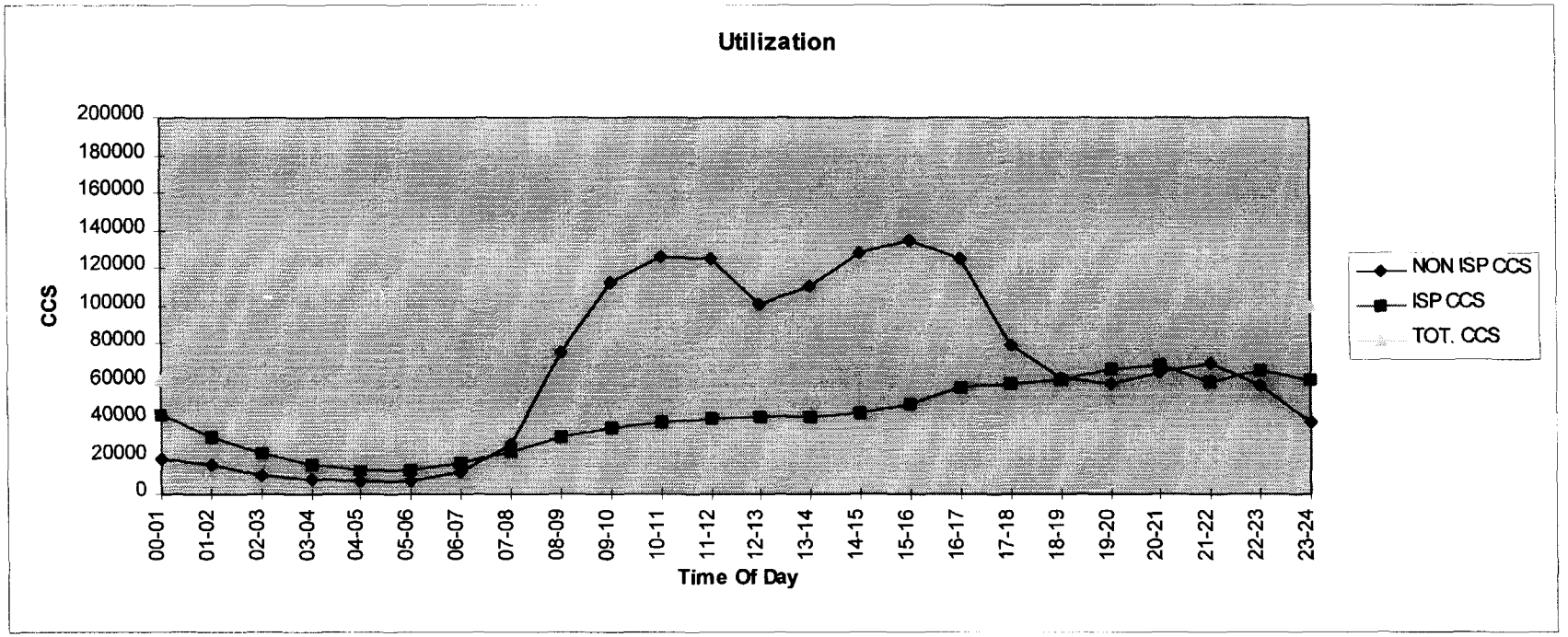

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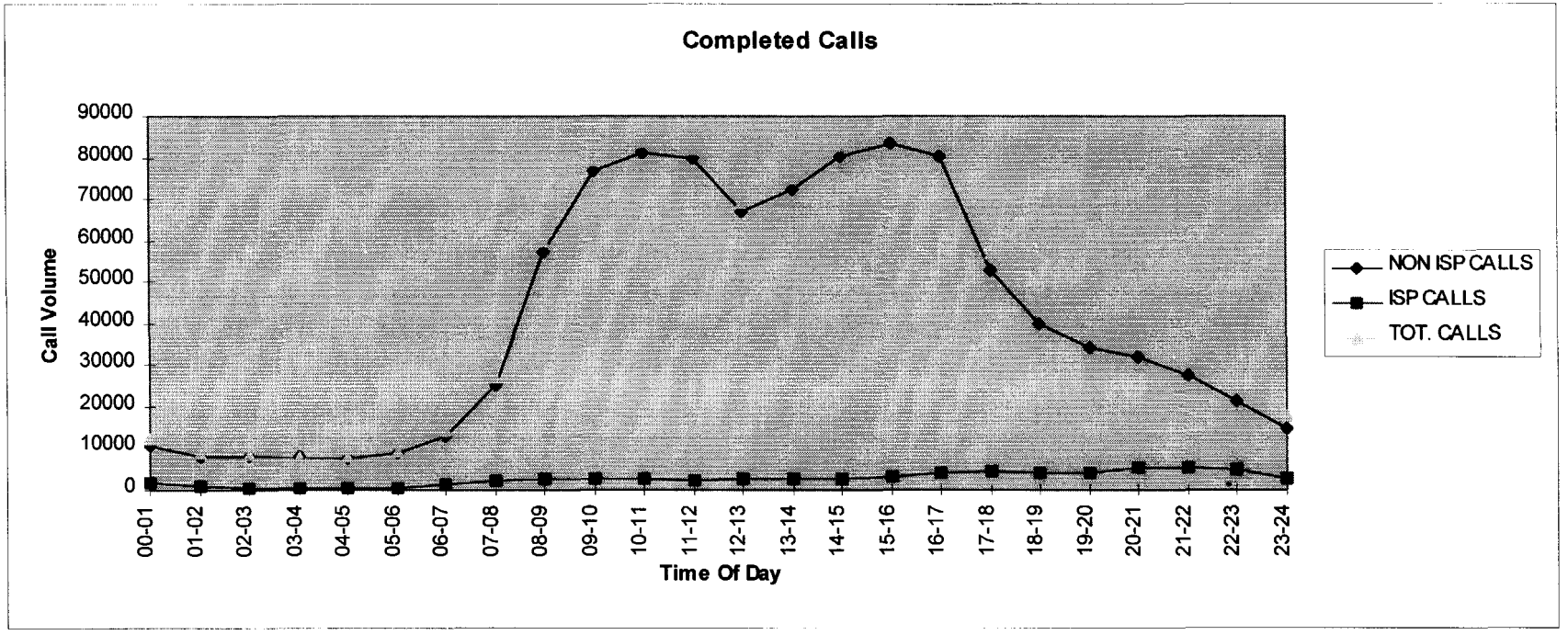
COMPLETED CALLS
4/17/97



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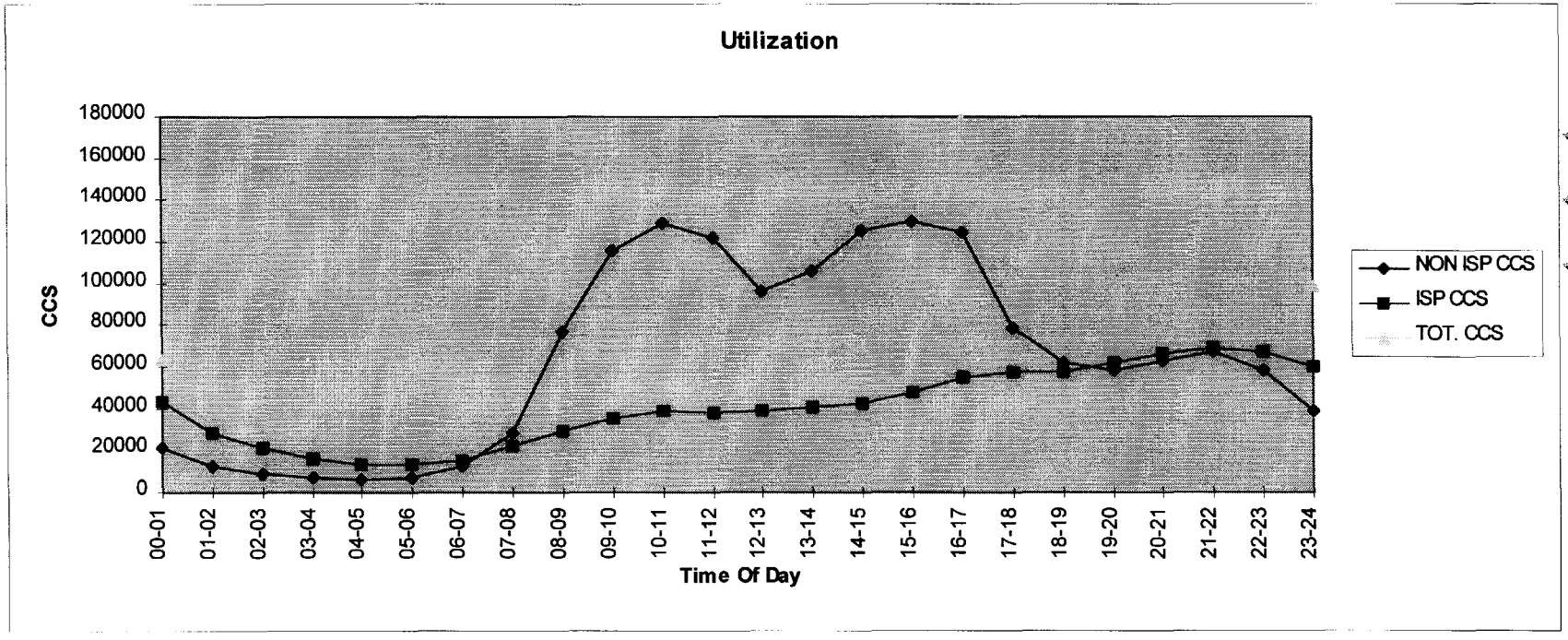
UTILIZATION
4/17/97



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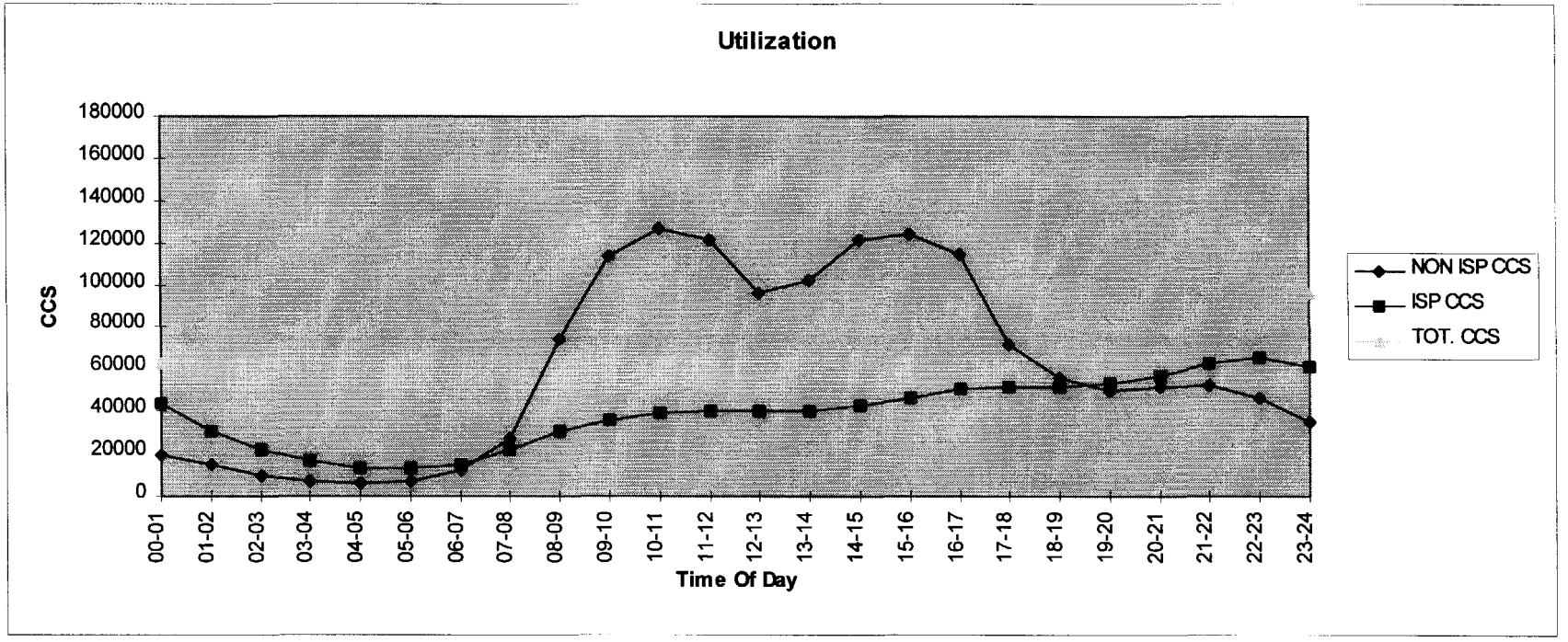
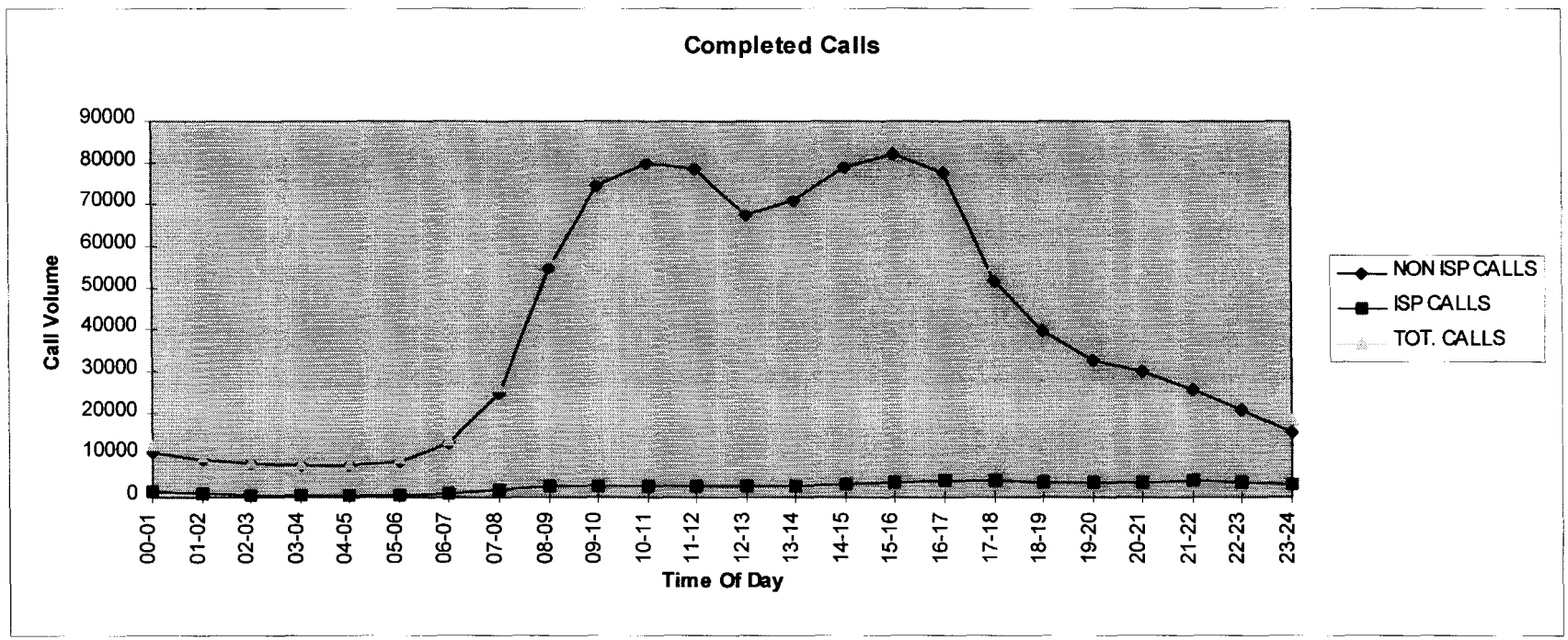
4/18/97



COMPLETED CALLS
4/18/97